

Amendments to the Claims

Claim 1 (Currently amended): Hybrid maize seed designated 39K40, representative seed of said hybrid 39K40 having been deposited under ATCC ~~accession~~ Accession number \_\_\_\_\_

C 1 Claim 2 (Currently amended): A maize plant, or its parts a part thereof, produced by growing the seed of claim 1.

Claim 3 (Original): Pollen of the plant of claim 2.

Claim 4 (Original): An ovule of the plant of claim 2.

Claims 5-61 (Canceled)

Claim 62 (New): A tissue culture of regenerable cells produced from the plant of claim 2.

Claim 63 (New): Protoplasts produced from the tissue culture of claim 62.

Claim 64 (New): The tissue culture of claim 62, wherein cells of the tissue culture are from a tissue selected from the group consisting of leaf, pollen, embryo, root, root tip, anther, silk, flower, kernel, ear, cob, husk and stalk.

Claim 65 (New): A maize plant regenerated from the tissue culture of claim 62, said plant having all the morphological and physiological characteristics of hybrid maize plant 39K40, representative seed of said plant having been deposited under ATCC Accession No. \_\_\_\_\_.

Claim 66 (New): A method for producing an F1 hybrid maize seed, comprising crossing the plant of claim 2 with a different maize plant and harvesting the resultant F1 hybrid maize seed.

Claim 67 (New): A method of producing a male sterile hybrid maize plant comprising transforming at least one of inbred maize parent plants GE535658 and GE516223, representative

samples of which have been deposited as \_\_\_\_\_ and \_\_\_\_\_ respectively, with a nucleic acid molecule that confers male sterility and crossing said inbred maize parent plants to produce said male sterile hybrid maize plant.

Claim 68 (New): A male sterile maize hybrid plant produced by the method of claim 67.

*C1*  
*C&W*

Claim 69 (New): A method of producing an herbicide resistant hybrid maize plant comprising transforming at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited as \_\_\_\_\_ and \_\_\_\_\_ respectively, with a transgene that confers herbicide resistance to generate an herbicide resistant inbred maize parent plant and crossing said inbred maize parent plants to produce said herbicide resistant hybrid maize plant.

Claim 70 (New): An herbicide resistant hybrid maize plant produced by the method of claim 69.

Claim 71 (New): The herbicide resistant hybrid maize plant of claim 70, wherein the transgene confers resistance to an herbicide selected from the group consisting of: imidazolinone, sulfonylurea, glyphosate, glufosinate, L-phosphinothricin, triazine and benzonitrile.

Claim 72 (New): A method of producing an insect resistant hybrid maize plant comprising transforming at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited as \_\_\_\_\_ and \_\_\_\_\_ respectively, with a transgene that confers insect resistance to generate an insect resistant inbred maize parent plant and crossing said inbred maize parent plants to produce said insect resistant hybrid maize plant.

Claim 73 (New): An insect resistant maize plant produced by the method of claim 72.

Claim 74 (New): The insect resistant maize plant of claim 73, wherein the transgene encodes a *Bacillus thuringiensis* endotoxin.

Claim 75 (New): A method of producing a disease resistant hybrid maize plant comprising transforming at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited as \_\_\_\_\_ and \_\_\_\_\_ respectively, with a transgene that confers disease resistance to generate a disease resistant inbred maize parent plant and crossing said inbred maize parent plants to produce said disease resistant hybrid maize plant.

Claim 76 (New): A disease resistant hybrid maize plant produced by the method of claim 75.

*C1*  
*cont.*

Claim 77 (New): A method of producing a hybrid maize plant with decreased phytate content comprising transforming at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited as \_\_\_\_\_ and \_\_\_\_\_ respectively, with a transgene encoding phytase to generate an inbred maize parent plant with decreased phytate content and crossing said inbred maize parent plants to produce said hybrid maize plant that confers decreased phytate content.

Claim 78 (New): A hybrid maize plant with decreased phytate content produced by the method of claim 77.

Claim 79 (New): A method of producing a hybrid maize plant with modified fatty acid metabolism or modified carbohydrate metabolism comprising transforming at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited as \_\_\_\_\_ and \_\_\_\_\_ respectively, with a transgene encoding a protein selected from the group consisting of stearyl-ACP desaturase, fructosyltransferase, levansucrase, alpha-amylase, invertase and starch branching enzyme to generate an inbred maize parent plant with modified fatty acid metabolism or modified carbohydrate metabolism and crossing said inbred maize parent plants to produce said hybrid maize plant that confers modified fatty acid metabolism or modified carbohydrate metabolism.

Claim 80 (New): A hybrid maize plant produced by the method of claim 79.

Claim 81 (New): The hybrid maize plant of claim 80 wherein the transgene confers a trait selected from the group consisting of waxy starch and increased amylose starch.

Claim 82 (New): A maize plant, or part thereof, having all the physiological and morphological characteristics of the hybrid maize plant 39K40, representative seed of said plant having been deposited under ATCC Accession No. \_\_\_\_\_.

Claim 83 (New): A method of introducing a desired trait into a hybrid maize line 39K40 comprising:

(a) crossing at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited under ATCC Accession Nos. as \_\_\_\_\_ and \_\_\_\_\_ respectively, with another maize line that comprises a desired trait, to produce F1 progeny plants, wherein the desired trait is selected from the group consisting of male sterility, herbicide resistance, insect resistance, disease resistance and waxy starch;

(b) selecting said F1 progeny plants that have the desired trait to produce selected F1 progeny plants;

(c) backcrossing the selected progeny plants with said inbred maize parent plant to produce backcross progeny plants;

(d) selecting for backcross progeny plants that have the desired trait and morphological and physiological characteristics of said inbred maize parent plant;

(e) repeating the steps of backcrossing to said inbred maize parent plant three or more times in succession to produce selected fourth or higher backcross progeny plants;

(f) crossing said backcross progeny plant with the other inbred maize parent plant to generate a hybrid maize line 39K40 with the desired trait and all of the morphological and physiological characteristics of hybrid maize line 39K40 listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

Claim 84 (New): A plant produced by the method of claim 83, wherein the plant has the desired trait and all of the physiological and morphological characteristics of hybrid maize line 39K40 listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

Claim 85 (New): The plant of claim 84 wherein the desired trait is herbicide resistance and the resistance is conferred to an herbicide selected from the group consisting of: imidazolinone, sulfonylurea, glyphosate, glufosinate, L-phosphinothricin, triazine and benzonitrile.

Claim 86 (New): The plant of claim 84 wherein the desired trait is insect resistance and the insect resistance is conferred by a transgene encoding a *Bacillus thuringiensis* endotoxin.

*C1*  
*Conv*

Claim 87 (New): The plant of claim 84 wherein the desired trait is male sterility and the trait is conferred by a cytoplasmic nucleic acid molecule that confers male sterility.

Claim 88 (New): A method of modifying fatty acid metabolism, phytic acid metabolism or carbohydrate metabolism in a hybrid maize line 39K40 comprising:

- (a) crossing at least one of inbred maize parent plants GE535658 and GE516223, representative samples of which have been deposited under ATCC Accession Nos. as \_\_\_\_\_ and \_\_\_\_\_ respectively, with another maize line that comprises a nucleic acid molecule encoding an enzyme selected from the group consisting of phytase, stearyl-ACP desaturase, fructosyltransferase, levansucrase, alpha-amylase, invertase and starch branching enzyme;
- (b) selecting said F1 progeny plants that have said nucleic acid molecule to produce selected F1 progeny plants;
- (c) backcrossing the selected progeny plants with said inbred maize parent plant to produce backcross progeny plants;
- (d) selecting for backcross progeny plants that have said nucleic acid molecule and morphological and physiological characteristics of said inbred maize parent plant;
- (e) repeating the steps of backcrossing to said inbred maize parent plant three or more times in succession to produce selected fourth or higher backcross progeny plants;
- (f) crossing said backcross progeny plant with the other inbred maize parent plant to generate a hybrid maize line 39K40 that comprises said nucleic acid molecule and has all of the morphological and physiological characteristics of hybrid maize line 39K40 listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

Claim 89 (New): A plant produced by the method of claim 88, wherein the plant comprises the nucleic acid molecule and has all of the physiological and morphological characteristics of hybrid maize line 39K40 listed in Table 1 as determined at the 5% significance level when grown in the same environmental conditions.

Claim 90 (New): A method for producing a maize seed, comprising crossing the plant of claim 2 with itself or a different maize plant and harvesting the resultant maize seed.